A field guide
2025 edition

The TMJ Recovery Field Guide

What to do when night guards, splints, and dental work haven't fixed your jaw pain.

A free guide for people whose TMJ pain hasn't responded to the usual treatments. Based on peer-reviewed research and the work of clinicians at the forefront of pain neuroscience.

Tauri Urbanik · painapp.health

START HERE

If you're still in pain after the night guard, you're not the problem.

You've probably been told some version of this story. Your bite is off. Your disc is displaced. You grind your teeth. The jaw is a delicate joint and yours has a structural problem that needs fixing.

So you got the night guard. Maybe you tried a second one when the first didn't work. You did the physical therapy. You changed your pillow. You stopped chewing gum. Some of you got Botox in your masseters. Some of you spent five figures on orthodontics, crowns, or arthroscopy.

And here you are. Still in pain.

I want you to know something before you read another page. Your pain is real. You are not imagining it. You are not exaggerating. You are not "just stressed." Anyone who has dismissed what you're feeling has done you a disservice.

But the structural story you've been sold may not be the right one. And that's actually good news, because the right story comes with a different kind of treatment, one that has a much better track record for chronic TMJ than night guards do.

This guide will show you what the research actually says about TMJ pain. It will show you why your treatments may not have worked. And it will show you what's been working for people who've recovered after years of suffering.

If by the end of these eight pages you find yourself thinking "this sounds like me," there's a free 3-minute self-check at the end. No email required.

— Tauri

THE RESEARCH

What MRIs of pain-free people reveal.

The standard TMJ story goes like this: pain in your jaw means something is wrong inside your jaw, and imaging will reveal the problem. Disc displacement. Joint changes. A bite that's slightly off. So you fix the structure, and the pain goes away.

There's a problem with that story. Researchers have done MRIs on people who have zero jaw pain. People who chew, talk, and yawn without a single complaint. And here's what they found.

33%

of pain-free people have disc displacement on MRI.

Katzberg, 1996, J Oral Maxillofac Surg

35%

prevalence in another sample of pain-free volunteers.

Larheim, 2001, Radiology

46%

of painful jaws show no disc displacement at all.

Naeije systematic review, 2013

20–34%

of asymptomatic patients show "abnormal" findings on TMJ MRI.

AAFP, 2015

Read those numbers again. About one in three people walking around without any jaw pain has the same "displaced disc" your imaging showed. Nearly half of jaws that hurt show nothing structural at all.

If disc displacement caused TMJ pain, the math wouldn't work like this. There would be a clean correspondence between what the MRI shows and how a person feels. Instead, the correspondence is loose at best.

A 15-year follow-up study (Larheim et al., 2013) found that disc displacement remained stable in 91% of cases over a decade and a half. It didn't progress. It didn't get worse. Your imaging finding is, in most cases, a stable variant of normal anatomy that your radiologist labeled as a problem.

The structural story is incomplete. The next page is what's going on instead.

Your jaw isn't broken. Your nervous system is on high alert.

There's a phenomenon in pain science called central sensitization. The simplest way to describe it: your brain and spinal cord turn up the volume on pain signals, and they keep the volume up even after the original trigger is gone. The hardware is fine. The software is stuck on a setting that produces pain in response to normal sensations.

Central sensitization in TMD has been demonstrated at the meta-analytic level. It's not speculative. Brain imaging studies (Li et al., 2020, *Journal of Headache and Pain*, reviewing 25 MRI studies) show TMD patients have measurable changes in pain-processing regions of the brain, including the anterior insula, anterior cingulate cortex, prefrontal cortex, somatosensory cortex, thalamus, and periaqueductal gray. The same regions are altered in chronic back pain, fibromyalgia, and migraine.

This is also why TMJ patients so often have other "unexplained" symptoms. The OPPERA study, which followed thousands of people for years, found that **78% of TMD cases also had at least one other chronic overlapping pain condition**. The fibromyalgia overlap was striking. The odds ratio was 19.7. Among TMD patients, **66% had chronic back pain, 50% had chronic stomach pain, 40% had chronic migraine, and 19% had IBS**.

You don't have ten different broken body parts. You have one nervous system that has learned to amplify pain signals. The TMJ is just where you feel it most.

> *“Interventions that promote coping and encourage movement and activity were found to be most effective for reducing chronic TMD pain.”*
>
> Yao et al., *BMJ*, 2023. Network meta-analysis of 153 RCTs and 8,713 patients.

Most TMJ treatments target the wrong system.

Look at what you've been offered, and what each one is actually doing.

✕ Night guards and splints.

A 52-trial NHS-funded systematic review (Riley et al., 2020, *Health Technology Assessment*) found "no evidence that splints reduced pain" when all TMD subtypes were pooled. A separate review (Al-Moraissi et al., 2020) concluded that improvements seen in splint studies are "due to the placebo effect or the natural remission of symptoms." The 2023 BMJ guideline issued a conditional recommendation against reversible occlusal splints for chronic TMD pain.

✕ Bite correction, crowns, orthodontics.

Manfredini et al. (2017) reviewed 25 studies and titled their paper "Temporomandibular disorders and dental occlusion: End of an era?" Their conclusion: a "lack of clinically relevant association" between TMD and your bite. The Cochrane review (Koh and Robinson, 2003) found no evidence that occlusal adjustment treats or prevents TMD. The NIDCR, the actual government dental research institute, states that occlusal treatments "do not help TMDs and can make the problem worse."

✕ Surgery.

Open-joint procedures cost $5,000 to $50,000. Total joint replacement runs $40,000 to $80,000. Chronic post-operative pain persists in roughly 20–30% of joint replacement patients (Bach et al., 2022). The 2023 BMJ guideline issued a strong recommendation against discectomy and irreversible dental interventions for chronic TMD.

These treatments aren't worthless. Some patients get acute relief, especially in the first few weeks. But the high-quality evidence is clear that they don't reliably resolve chronic TMD pain, because they're treating a structural problem that, in most chronic cases, isn't actually driving the pain.

The BMJ network meta-analysis found that the three most effective treatments for chronic TMD pain were CBT plus biofeedback or relaxation (36% achieved clinically important relief), therapist-assisted jaw mobilization (36%), and manual trigger point therapy (32%). Notice the pattern. The most effective treatments target the nervous system and movement, not the bite or the joint structure.

Brain-based treatment for a brain-generated condition.

If chronic TMJ pain is generated and amplified by a sensitized nervous system, then the treatment that has the best evidence is the one that retrains that nervous system. Here's what the research shows.

✓ CBT for TMJ.

Turner et al. (2006, *Pain*) randomized 158 TMJ patients to four sessions of CBT or an education control. At 12 months, **50% of CBT patients achieved at least 50% pain reduction, versus 29% of controls**. Thirty-five percent reported zero activity interference, versus 13% of controls. The 2023 BMJ guideline issued a strong recommendation in favor of CBT for chronic TMD pain.

✓ Biofeedback.

A meta-analysis of 13 studies (Crider and Glaros, 1999) found that **68.6% of biofeedback patients met improvement criteria, versus 34.7% of placebo controls**, with a mean effect size of 1.04, large by any standard.

✓ Pain Reprocessing Therapy.

PRT was tested in chronic back pain (Ashar et al., 2022, *JAMA Psychiatry*) and produced one of the most striking results in modern pain research: **66% of patients were pain-free or nearly pain-free after four weeks of treatment**, versus 20% with placebo and 10% with usual care. Five-year follow-up confirmed durable relief. PRT hasn't been tested specifically for TMD yet, but the central mechanism it targets, reattributing pain from tissue damage to the brain's protective response, is the same mechanism implicated in chronic TMJ.

A 2025 systematic review of brain-based treatment for TMJ found that 90% of patients reported pain reduction, and 70% reported a reduction in negative emotions.

You probably haven't been offered any of this. Most dentists aren't trained in pain neuroscience. Most insurance pathways for TMJ funnel toward dental and surgical interventions. The mismatch between what the evidence supports and what the system delivers is enormous.

THE SELF-CHECK

A 7-question self-check.

Read each statement. If it sounds like you, it's a sign your TMJ is more brain-driven than jaw-driven. Be honest. There are no wrong answers.

- [ ] My pain is worse during stressful periods and better when I'm relaxed or on vacation.
- [ ] My pain moves around. Sometimes one side, sometimes the other, sometimes radiating into my temples, neck, or ears.
- [ ] I have other unexplained symptoms (back pain, IBS, migraines, fibromyalgia, anxiety, sleep problems).
- [ ] My pain started during or shortly after a stressful life event (loss, divorce, career change, pregnancy, illness, dental procedure).
- [ ] Multiple structural treatments (night guards, splints, dental work, PT) have failed to give me lasting relief.
- [ ] My pain is unpredictable. Flares for no obvious reason, eases for no obvious reason.
- [ ] My imaging findings don't fully explain how much pain I'm in.

If you checked three or more of these, the research strongly suggests your TMJ pain has a significant central, nervous-system component. That's not a diagnosis you should accept from a free PDF. But it is a strong reason to take the next step and look more deeply.

The full PainApp self-assessment goes deeper. It takes about three minutes. You'll get a personalized read on where your pain pattern fits and what the research suggests for someone in your situation.

→ Take the free 3-minute pain self-check at **painapp.health/assessment**

No email required. No upsell. Just the assessment.

THE NEXT 7 DAYS

Three things you can do, starting today.

You don't need to overhaul your life this week. The science of recovery is patient. But there are three small things that align with the research and cost nothing.

01 Track your pain alongside your stress.

For the next seven days, write down two numbers each evening. Your average jaw pain that day, on a scale of 0–10. And your average stress that day, on the same scale. After a week, look for the pattern. Most people see a relationship that surprises them. This is the first step in shifting how your brain interprets the pain.

02 Stop reinforcing the danger signal.

Every time you check your jaw, clench it, click it, push on it, see if it still hurts, you reinforce the brain's interpretation that the jaw is a site of threat. This is a normal, understandable behavior. It also keeps the alarm on. For the next week, try to interrupt this loop. When you notice yourself checking your jaw, name it: "I'm checking again." Then move on. You're not ignoring the pain. You're not pretending it's fine. You're just refusing to feed the surveillance.

03 Read one recovery story.

People recover from chronic TMJ. Not all of them. But more than the literature would suggest if you've only read dental sites. Reading someone else's recovery story changes what your brain believes is possible, and what your brain believes about your pain matters more than almost any other variable. There's a free TMJ recovery story library at the link below.

→ Take the 3-minute self-check at **painapp.health/assessment**

→ Read TMJ recovery stories at **painapp.health/recovery-stories**

→ Read more about the science at **painapp.health**

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About the author

Tauri Urbanik is the founder of PainApp.health, a platform helping people with chronic pain understand the neuroscience of their condition and apply the same approaches used in clinical recovery research. PainApp focuses on what the evidence actually supports, written in plain language, for people whose treatments haven't worked.

Read more at painapp.health/authors/tauri-urbanik

About this guide. This is a free educational resource. It's not medical advice. If you have severe pain, locking that won't release, or new neurological symptoms, see a clinician. The research cited here is real and current as of 2025. Citations are real, journal-published studies you can verify yourself.

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